Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: Montana Prairie Nest
527 Prairie Nest Road
Great Falls, MT 59405

2. Type of action: Application for Beneficial Water Use Permit 41Q-30026974

3. Water source name: Groundwater (Madison Group)

4. Location affected by project: The point of diversion is a well located in the SW NW NE, Section 6, T20N, R6E, Cascade County.

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

This permit application is for a well completed in the Madison Formation. The water will be utilized for 892.0 acres of irrigation lying under two half mile long center pivots. The applicant is requesting to divert 350 gallons per minute (gpm) up to 564.6 acre-feet (AF) annually. The water will be conveyed year round from the well to a 1,962 AF existing reservoir (East Rogers Coulee) located in the NE quarter of Section 6, T20N, R6E, Cascade County. A pump station will be installed at the reservoir which will provide water for the two pivots from April 1 to October 31 of each year.

The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

6. Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

Dept. of Environmental Quality Website - TMDL 303d listing
MT. National Heritage Program Website - Species of Concern
USDI Fish & Wildlife Service Website - Endangered and Threatened Species
MT State Historic Preservation Office - Archeological/Historical Sites
USDA Natural Resources Conservation Service – Web Soil Survey
USDI Fish & Wildlife Service – Wetlands Online Mapper

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

Determination: Low likelihood of impact.

Water quantity will be diminished by up to 564 AF in some years; however the withdrawal of water from the Madison aquifer should not have a significant impact on water quantity. The Madison group lies several hundred feet below the land surface, and there are no known structural features (faults) in the area of interest to allow communication between formations. The application of said water could potentially increase flows and available water in the Rogers Coulee watershed, a tributary to Belt Creek, particularly during the irrigation season.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Determination: Low likelihood of impact.

The adjacent drainage area known as Rogers Coulee is not currently listed as impaired or threatened by the MT DEQ. The reach of Belt Creek fed by Rogers Coulee has been designated as needing a TMDL plan. The 2006 303d listing shows that agriculture is partially supported and identifies impairments derived chiefly from acid drainage associated with abandoned mine activities. As stated above the proposed project could increase flows and the available water supply in Rogers Coulee and thus, eventually, benefit Belt Creek itself.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

Determination: Low likelihood of impact.

The proposed project will consist of an 8" well drilled 800 feet into the Madison group. At present there are two wells within the near vicinity of the proposed well. Given that the proposed project would lead to an annual projected drawdown of 7.5 feet in the closest well (76') and 3.6 feet for a domestic well 1870' away, and given that these wells have several hundred feet of water column beneath the pumping water level, this appropriation of water is not expected to impact other water users within the Madison group.

The consultant estimated the total volume of water physically available from Darcy's law, calculating the total flux through a 12-mile transect based upon the ROI, a transmissivity value of 8808 ft^2/day, and a gradient of 0.0039 based upon the aquifer pump test results. Using this method, the estimated flux was 29,458.35 AF/YR. The consultant estimates the total legal demand on the aquifer through this transect at 2312.8 AF/YR, which equates to 8 percent of the estimated flux.

The Madison group lies several hundred feet below the land surface, and there are no known structural features (faults) in the area of interest to allow communication between formations. As such, it is unlikely that the project will negatively impact adjacent surface water flows. As stated previously, the application of Madison groundwater may make a positive contribution to the adjacent surface water sources.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: Low likelihood of impact.

The well has been constructed according to applicable MT Board of Water Well Contractors standards. Applicant intends to install an electric 60-hp Goulds submersible pump. Water will be conveyed from the well to an existing reservoir. A pump station will convey the water from the reservoir to the center pivots through 16-inch PVC pipe.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: Low likelihood of impact.

The Montana National Heritage Program lists 2 species as Species of Concern within Township 20 North Range 6 East. Common names for these two species are the Greater Short-horned Lizard and the Sauger. The USDI Fish & Wildlife Service Website shows that Cascade County has one species listed as threatened; the Bald Eagle. The project is consistent with other developments commonly found in the area.

Wetlands - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: Low likelihood of impact.

There are known wetlands associated with the existing reservoir, however this proposed pipeline route and pump station location should not affect the wetland resources in the area. The USDI Fish & Wildlife Service – Wetlands Online Mapper has no data available for the place of use for this project.

Ponds - *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: Low likelihood of impact.

The project involves storing water in an existing 1,962 AF reservoir. No impact to wildlife, waterfowl, or fisheries is anticipated as long as the applicant's well supplies all the water utilized by the center pivots and no increased burden is placed on the surface water source.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: Low likelihood of impact.

The USDA-NRCS Web Soil Survey indicates the dominant soil units in the area are Lawther silty clay and Gerber silty clay loam. The rating for these soil units could have very severe limitations that reduce the choice of plants or that require very careful management, or both. The sodium adsorption ratio is 0.0 signifying a low likelihood of impacts from saline seep.

Likely some short-term surface disturbance and erosion will occur with the initial installation of the irrigation system. Long-term effects (erosion, salinity, etc.) will depend upon management, but it is expected that farming practices will minimize any potential impact.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: Low likelihood of impact.

The project would result in increased forage production. Normal farm weed management would be used to control noxious weeds potentially invading disturbed areas; therefore, no spread of noxious weeds would likely be associated with this application. It is the responsibility of the property owner to control noxious weeds on their property.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: Low likelihood of impact.

It is unlikely air quality would be impacted; as this project will utilize a 60HP electric pump.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

Determination: Low likelihood of impact.

The State Historic Preservation Office found that there is a low likelihood cultural properties will be impacted; a cultural resource inventory is unwarranted at this time.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: Low likelihood of impact.

No additional impacts are anticipated.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: Low likelihood of impact.

The proposed action is consistent with historic agricultural practices in the area.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: Low likelihood of impact.

The proposed action will not impact recreational activities in the area.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: Low likelihood of impact.

No impacts to human health have been identified.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No_**X**__ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

Determination: No known impacts.

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* **None**

(b) *Local and state tax base and tax revenues?* **None**

(c) *Existing land uses?* **None**

(d) *Quantity and distribution of employment?* **None**

(e) *Distribution and density of population and housing?* **None**

(f) *Demands for government services?* **None**

(g) *Industrial and commercial activity?* **None**

(h) *Utilities?* **None**

(i) *Transportation?* **None**

(j) *Safety?* **None**

(k) *Other appropriate social and economic circumstances?* **None**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts - No secondary impacts are anticipated.

Cumulative Impacts - No cumulative impacts are anticipated.

3. *Describe any mitigation/stipulation measures:*

No mitigation measures have been identified.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

No action alternative: Deny the application. This alternative would result in none of the benefits of increased forage production and the related economic benefits being realized by the applicant.

PART III. Conclusion

1. Preferred Alternative

The preferred alternative is the proposed alternative.

2 Comments and Responses

None Received.

3. ***Finding:***
*Yes___ No_**X**__ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.

Name of person(s) responsible for preparation of EA:

Name: Douglas Mann
Title: Water Resources Specialist - LRO
Date: 10/22/2007